

REMARKS

Claims 1-83 are all the claims pending in the application. Claims 26-28, 52, and 53 have been allowed in this application.

I. Claim Rejections - 35 USC § 102

Claims 1, 6, 8, 9, 12, 40 and 42-44 stand rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Iwashita et al. (U.S. 2002/0149019). Applicant respectfully traverses the 35 U.S.C. § 102 rejection of the claims, as set forth below.

Iwashita fails to teach or suggest that “a piezoelectric film is formed on top of said bottom electrode by an ion beam assist method,” as recited in claim 1. Iwashita merely discloses that “the piezoelectric thin film can be formed by a laser ablation method ... with an ion beam assist.” (paragraph [0125])

The Examiner overlooks the point that the “ion ablation method” and the “ion beam assist method” are totally different methods. The “ion ablation method” in Iwashita contemplates irradiating ion beams on the targets which are used in the sputtering process or the like, causing the particles to lift from the targets, and then having the particles accumulate on the substrates. While on the other hand, the “ion beam assist method” is for etching the layers (such as the bottom electrodes, piezoelectric film and top electrodes) which are already accumulated on the substrates, and leaving only a specific crystal orientation (such as a (100) orientation).

Iwashita’s disclosure in paragraph [0125] is “a laser ablation method ... with an ion beam assist” which means the particles lift from the targets and accumulate on the substrates by assisting (i.e., irradiating) ion beams on the targets. It is clear that Iwashita merely discloses the

“ion ablation method” and does not disclose nor even imply use of the “ion beam assist method.”

For at least the foregoing reasons, independent claim 1 and its dependent claim 6 are patentable over Iwashita. For similar reasons, independent claims 8, 40, and 43 are patentable over Iwashita, too, along with their respective dependent claims 9, 12, 42, and 44. Therefore, the 35 U.S.C. § 102 rejection of claims 1, 6, 8, 9, 12, 40, and 42-44 should be withdrawn.

II. Claim Rejections - 35 USC § 103

Applicant respectfully traverses the 35 U.S.C. § 103 rejection of the claims as set forth below.

A. Claims 2-5 and 41

Claims 2-5 and 41 stand rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Iwashita et al. (U.S. 2002/0149019) in view of Sakamaki et al. (U.S. 6,255,762).

For similar reasons discussed above vis-à-vis claim 1, Iwashita fails to teach or suggest the subject matter of independent claims 2 and 41. Sakamaki, applied for its teaching regarding a col coating, does not compensate for the deficiencies of Iwashita.

Even taken as a whole for what they would have meant to a skilled artisan, the combined teachings of Iwashita and Sakamaki would not render unpatentable independent claims 2 and 41. Therefore, the 35 U.S.C. § 103 rejection of claims 2-5 and 41 should be withdrawn.

B. Claims 11, 32-35, 55 and 56

Claims 11, 32-35, 55 and 56 stand rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Iwashita et al. (US 2002/0149019) in view of Nakahata et al. (US 5,401,544).

For similar reasons discussed above vis-à-vis claim 1, Iwashita fails to teach or suggest

the subject matter of independent claims 32, 34, 55, and 56. Nakahata, applied for its teaching regarding focused ion beam etching to form interdigital electrodes, does not compensate for the deficiencies of Iwashita.

Even taken as a whole for what they would have meant to a skilled artisan, the combined teachings of Iwashita and Sakamaki do not render unpatentable independent claims 32, 34, 55, and 56. Therefore, the 35 U.S.C. § 103 rejection of claims 11, 32-35, 55 and 56 should be withdrawn.

C. Claims 7 and 10

Claims 7 and 10 stand rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Iwashita et al. (U.S. 2002/0149019) in view of Kashiwaya et al. (U.S. 2003/0175062).

As discussed above vis-à-vis base claims 1 and 8, Iwashita fails to teach or suggest the subject matter of claims 1 and 8. Kashiwaya, applied for its teaching regarding specific compounds, does not compensate for the deficiencies of Iwashita.

Even taken as a whole for what they would have meant to a skilled artisan, the combined teachings of Iwashita and Kashiwaya do not render unpatentable independent claims 1 and 8, much less dependent claims 7 and 10.

Further, regarding claims 7 and 10, the Examiner concedes that “The specific orientation is not noted. They do not employ the ion beam assist method for formation of layers.” (Office Action, page 6) Applicant submits that the operations involved in forming a film in a specific crystal orientation as disclosed in the claims is more than routine skill in the art, and the combined teachings of Iwashita and Kashiwaya fail to disclose the elements as set forth in the

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claims 7 and 10.

For at least the foregoing reasons, claims 7 and 10 are patentable over the combined teachings of Iwashita and Kashiwaya. Therefore, the 35 U.S.C. § 103 rejection of claims 7 and 10 should be withdrawn.

D. Claims 13 and 45

Claims 13 and 45 stand rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Iwashita et al. (U.S. 2002/0149019).

As discussed above vis-à-vis base claims 8 and 43, Iwashita fails to teach or suggest the subject matter claimed therein. Therefore, dependent claims 13 and 45 are patentable by virtue of their dependency from claims 8 and 43, respectively.

Further, with regard to the specific orientations of the crystal, Applicant refers the Examiner to the remarks discussed above for claims 7 and 10.

For at least the foregoing reasons, the 35 U.S.C. § 103 rejection of claims 13 and 45 should be withdrawn.

III. Allowable Subject Matter

The Examiner has allowed claims 26-28, 52, and 53 over the applied prior art in their present form.

IV. Conclusion

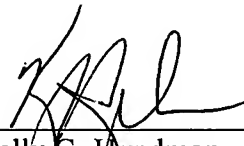
In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the

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Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly invited to contact the undersigned attorney at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

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